
हस्त-चालित धानी ट्रक — उत्थापक ट्रक
(हस्त उत्तोलन) — विशिष्टि
(तीसरा पुनरीक्षण)

Hand-Operated Stillage Truck-Lifting
Truck (Hand Elevating) —
Specification
(Third Revision)

ICS 53.020.30; 53.060

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FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Earth Moving Equipment and Material Handling Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard was originally issued in 1969 and then revised in 1983 and 1996. The present revision has been taken up with a view to incorporating the modifications found necessary as a result of experience gained in the use of this standard. Also, in this revision, the standard has been brought into latest style and format of Indian Standards, and references to Indian Standards, wherever applicable have been updated. BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act*, 2016.

In the formulation of this standard assistance has been derived from ISO 938-1975 'Hand-operated stillage trucks — Principal dimensions', issued by the International Organization for Standardization (ISO).

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***HAND-OPERATED STILLAGE TRUCK-LIFTING TRUCK
(HAND ELEVATING) — SPECIFICATION***(Third Revision)***1 SCOPE**

This standard covers principal dimensions and requirements of hand-operated stillage trucks, which are directly in relation to the corresponding dimensions of stillages.

2 REFERENCES

The standards given below contains provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

<i>IS No.</i>	<i>Title</i>
IS 5 : 2007	Colours for ready mixed paints and enamels (<i>fourth revision</i>)
IS 1239 (Part 1) : 2004	Steel tubes, tubulars and other wrought steel fittings — Specification: Part 1 Steel tubes (<i>sixth revision</i>)
IS 2062 : 2011	Hot rolled medium and high tensile structural steel — Specification (<i>seventh revision</i>)
IS 2074 (part 1) : 2015	Ready mixed paint, air drying, red oxide-zinc chrome, priming — Specification: Part 1 for domestic and decorative applications (<i>third revision</i>)
IS 5387 : 2022	Dimensions for stillages (<i>first revision</i>)
IS 6839 (Part 2) : 2022	Glossary of terms relating to non-powered materials handling equipment: Part 2 Hand trucks and trolleys (<i>first revision</i>)

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 6839 (Part 2) shall apply.

4 DESIGN

4.1 A typical design of the stillage truck is shown in Fig. 1 for guidance only.

4.2 The stillage truck shall be suitable of handling goods stacked/kept on standard stillages conforming to IS 5387.

5 CONSTRUCTION**5.1 Frame**

The frame shall be made out of structural steel sections conforming to IS 2062.

5.2 Axle

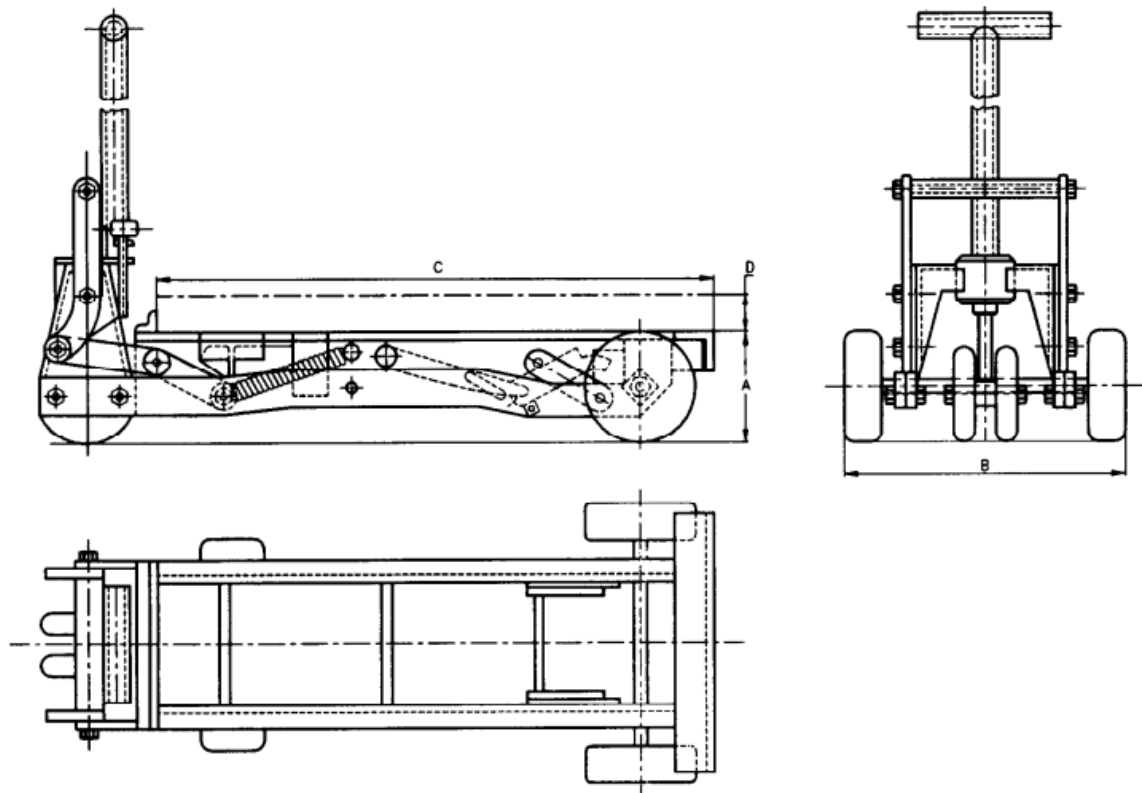
The axle shall be made out of round bar conforming to IS 2062.

5.3 Handle

5.3.1 The handle shall be made of mild steel tubular sections conforming to IS 1239 (Part 1).

5.3.2 The handle shall have provisions to latch it in vertical position for push and pull manoeuvring in confined spaces.

5.4 If required by the purchaser the stillage truck shall be provided with hydraulic check release for smooth and safe lowering of the load.



All dimensions in millimetres.

FIG. 1 DIMENSIONS FOR HAND-OPERATED STILLAGE TRUCK

6 DIMENSIONS AND CAPACITIES

6.1 The overall dimensions, lift and the capacity of the trolley shall be as given in Table 1.

Table 1 Nominal Dimensions of Stillage Truck

(Clause 6.1 and Fig.1)

All dimensions in millimeters.

Sl No.	Parameters	Dimensions						
(1)	(2)	(3)						
i)	Height of elevating frame when lowered (A)	160	180	180	180	180	230	280
ii)	Overall width of frame (B)	470	425	450	560	600	620	700
iii)	Nominal length of elevating frame (C)	800	900	900	1 000	900	1 200	1 500
		900		1 200		1 200		1 600
								1 800
iv)	Height of lift (D)	50	50	50	50	50	50	50
v)	Capacity, kN	6	6	10	10	10	10	10

6.2 Tolerances

6.2.1 Tolerances on overall dimensions and lift shall be ± 5 mm.

7 WHEELS

The wheels used with the truck shall be of minimum 150 mm dia, cast iron or rubber tyred, with suitable bearing arrangement or shall be left to the discretion of manufacturer and purchaser.

8 WORKMANSHIP AND FINISH

8.1 The truck shall be free from warp in structural frame work and other visible defects.

8.2 Each stillage truck shall be free of rust, millscale, dirt, oil, etc, and thoroughly cleaned, if needed with chemical solution and rinsed. Subsequently each truck shall be given one coat of red oxide primer (see IS 2074) and then two coats of synthetic enamel paint in colour/shade as agreed (see IS 5).

8.3 The painted surface shall be free from wrinkles, dripping, scratches and irregularities both in colouring and painting.

9 PERFORMANCE TEST REQUIREMENTS

9.1 General

When the truck is traversed over a smooth road with the permissible carrying load, the wheels shall turn smoothly and other parts shall function satisfactorily in both raised and lowered position.

9.2 Load Test

Place the stillage truck under the stillage on tote box which contains the rated load. Raise the load

by operating mechanical leverage of the truck to its maximum height and leave it at the top most position for five minutes. The load shall not come down on its own.

9.2.1 Repeat the above test with 10 percent overload.

9.2.2 After completion of the test there shall be no permanent set or distortion in the structure or any member of the structure of the truck.

9.3 Handle

The handle shall withstand a minimum horizontal force of 230 N plus 2 percent of the rated load, without breaking or permanently bending.

10 MARKING

10.1 The stillage truck shall be marked with the following information in visible position:

- a) Indication of the source of manufacture;
- b) Capacity, in kN;
- c) Manufacturer's serial number; and
- d) Year of manufacture.

10.2 BIS Certification Marking

The stillage truck may also be marked with the Standard Mark.

10.2.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Earth Moving Equipment and Material Handling Sectional Committee, MED 07

<i>Organization</i>	<i>Representative(s)</i>
BEML Limited, Bengaluru	SHRI V. SEKAR (<i>Chairperson</i>)
Airports Authority of India, New Delhi	SHRI K. S. KUNWAR SHRI JASPAL SINGH (<i>Alternate</i>)
Automotive Research Association of India, Pune	SHRI A. AKBAR BADUSHA
BEML Limited, Bengaluru	SHRI HEMANT KUMAR
Bharat Coking Coal Limited, Dhanbad	SHRI ARUN NAND SAHAY SHRI CHANDRA SHEKHAR S. I. (<i>Alternate</i>)
Bharat Heavy Electrical Limited, New Delhi	SHRI G. BHAGCHANDANI SHRI S. K. BHAUMIK (<i>Alternate</i>)
Caterpillar India Private Limited, Chennai	SHRI K. REJI JOSE SHRI V. BHASKARAN (<i>Alternate</i>)
Cement Corporation of India Limited, New Delhi	SHRI A. K. SRIVASTAVA SHRI ANURAG KUMAR SAINI (<i>Alternate</i>)
Central Mine Planning and Design Institute Limited, Ranchi	SHRI PARAG MAJUMDAR SHRI PRAVEEN K. SINHA (<i>Alternate</i>)
Directorate General Factory Advice Service and Labour Institutes, Mumbai	SHRI SUMIT ROY
Directorate General of Mines Safety, Dhanbad	SHRI D. B. NAYAK SHRI VIJAY YADAORAO BARAPATRE (<i>Alternate</i>)
Directorate General of Quality Assurance, Ministry of Defense, New Delhi	LT COL SIDHARTH KHATTRI SHRI RAGHUBIR SINGH (<i>Alternate</i>)
Engineers India Limited, New Delhi	SHRI K. C. PAIKAR SHRI R. R. SHRIVASTAVA (<i>Alternate</i>)
Epiroc Mining India Limited, Nashik	SHRI PRAKASH GORE
Escorts Construction Equipment Limited, Faridabad	SHRI FAIZ AHMAD MS RUPALI SHARMA (<i>Alternate</i>)
Fact Engineering and Design Organization, New Delhi	SHRI R. K. PALLAI SHRI JUBY CHANDY (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
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Indian Construction Equipment Manufacturers Association, New Delhi	SHRI K. V. KRISHNAMURTHY
Indian Institute of Technology (ISM), Dhanbad	PROF L. A. KUMARASWAMIDHAS
JCB India Limited, New Delhi	SHRI SAURABH DALELA SHRI VIVEK RAWAT (<i>Alternate</i>)
John Deere India Private Limited, Mumbai	SHRI KARTHIK KALIAPPAN SHRI RAJ ANAND (<i>Alternate</i>)
Komatsu India Private Limited, Bengaluru	SHRI M. RAJENDRAN SHRI VIKRANT SHARMA (<i>Alternate</i>)
L & T Komatsu Limited, Bengaluru	SHRI G. S. NARAYANA SHRI K. KESHAVA (<i>Alternate</i>)
Mahindra Construction Equipment, Chakan	SHRI GOPALKRISHNA RAJENDRA
Manitou India Limited, Greater Noida	SHRI ATUL K. SINGHAL
Mcnally Bharat Engineering Company Limited, Kolkata	SHRI ASHOK KUMAR BOSE SHRI SANDIPAN DAW (<i>Alternate</i>)
Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	SHRI SUSHIL LAKRA
Ministry of Shipping, New Delhi	SHRI ANIL PRUTHI SHRI RAMJI SINGH (<i>Alternate</i>)
Mumbai Port Trust, Mumbai	SHRI DILIPVISHWANATHAN SHRI PANDIAN SEKAR (<i>Alternate</i>)
NTPC Limited, New Delhi	SHRI MADHUKAR ANAND SHRI P. S. CHATTERJEE (<i>Alternate</i>)
National Council for Cement and Building Materials, Faridabad	SHRI KAPIL KUKREJA SHRI SAURABH BHATNAGAR (<i>Alternate</i>)
National Mineral Development Corporation, Hyderabad	SHRI S. J. RAO SHRI S. K. ROY (<i>Alternate</i>)
Office of Development Commissioner (MSME), New Delhi	SHRI SUSANTA KUMAR SOM SHRI SUVANKAR SANTRA (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Project and Development India Limited, Noida	SHRI NARENDRA SINGH SHRI ABHIJIT MAHATA (<i>Alternate</i>)
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BIS Directorate General	SHRI RAJNEESH KHOSLA, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (MECHANICAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
MS KHASHBOO KUMARI
SCIENTIST 'D'/JOINT DIRECTOR
(MECHANICAL ENGINEERING), BIS

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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